AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listing of ~~claims~~ in the Application. Please amend the claims to read as follows and cancel without prejudice or disclaimer the claims marked as canceled:

Listing of Claims

1. **(Currently Amended)** An apparatus comprising:
   a data packet generator to generate a data packet including ~~at least one of~~ a compatibility preamble field, two or more training fields, and a physical layer convergence protocol header that includes bit and power loading information, ~~, and wherein at least some of the compatibility preamble field, the two or more training fields and the physical layer convergence protocol header are encoded with a predetermined code and modulated by a predetermined modulation scheme.~~
2. **(Currently Amended)** The apparatus of claim 1, wherein the compatibility preamble field is subdivided ~~in time~~ into a short combined preamble, a long combined preamble and a combined signal field.
3. **(Currently Amended)** The apparatus of claim 2, wherein the short combined preamble comprises:
   two or more short preambles adapted to be transmitted over two or more neighboring sub-channels, and wherein at least one of the two or more short preambles is phase rotated relative to the other short preambles, ~~in other sub-channels.~~
4. **(Currently Amended)** The apparatus of claim 2, wherein the long combined preamble comprises:
   two or more long preambles adapted to be transmitted over two or more neighboring sub-channels, and wherein at least one of the two or more long preambles is phase rotated relative to the other long preambles, ~~in other sub-channels.~~

5. (**Currently Amended**) The apparatus of claim 2, wherein the combined signal field comprises:
two or more signal fields adapted to be transmitted over two or more neighboring sub-channels, and wherein at least one of the two or more signal fields is phase rotated relative to the other signal fields. ~~in other sub-carriers.~~
6. (**Currently Amended**) The apparatus of claim 1, wherein the two or more training fields comprise:
a prefix training field and a postfix training field, both fields having substantially the same format. ~~, transmitted over two or more sub-channels of a channel.~~
7. (**Original**) The apparatus of claim 1, wherein the data packet comprises at least one data field fragmented into two or more fragments separated by at least one middle-fix training field.
8. (**Currently Amended**) The apparatus of claim 6, wherein the two or more training fields further comprise: ~~comprises :~~
a middle-fix training field having substantially the same format as the prefix training field and the postfix training field.
9. (**Currently Amended**) The apparatus of claim 7, comprising:
a modulator to modulate a first of the two or more fragments using a first modulation scheme and a second of the two or more fragments using a second modulation scheme. ~~two or more modulation schemes, respectively.~~
10. (**Canceled**)
11. (**Original**) The apparatus of claim 9 comprising:
an encoder to encode a first fragment of the two or more fragments by a first code and a second fragment of the two or more fragments by a second code.
12. (**Currently Amended**) The apparatus of claim 1, wherein ~~comprising: a predictor to predict long-term characteristics of a communication channel based on information received from~~ at least one of the two or more training fields is adapted to provide long term channel prediction.

13. **(Currently Amended)** A method comprising:

generating a data packet including ~~two or more fields selected from at least one of~~ a compatibility preamble field, [[and]] two or more training fields, and a physical layer convergence protocol header that includes bit and power loading information; and

transmitting said data packet.

~~wherein at least some of the compatibility preamble field and two or more training fields are encoded with a predetermined code and modulated by a predetermined modulation scheme.~~

14. **(Currently Amended)** The method of claim ~~13, comprising:~~ 43, wherein the short combined preamble comprises two or more short preambles, and wherein said step of transmitting comprises:

~~dividing~~ transmitting the two or more [[long]] short preambles ~~of a long combined preamble of a compatibility preamble field into~~ over two or more neighboring sub-channels; and

rotating a phase of at least one of the [[long]] two or more short preambles relative to the other short preambles. ~~in one of the sub-channels.~~

15. **(Currently Amended)** The method of claim ~~14, comprising:~~ 43, wherein the long combined preamble comprises two or more long preambles, and wherein said step of transmitting comprises:

~~dividing~~ transmitting the two or more long preambles ~~of the long combined preamble of the compatibility preamble field into~~ over two or more neighboring sub-channels; and

rotating a phase of at least one of the two or more long preambles relative to the other long preambles. ~~in one of the sub-channels.~~

16. **(Currently Amended)** The method of claim ~~14, comprising:~~ 43, wherein the combined signal field comprises two or more signal fields, and wherein said step of transmitting comprises:
~~dividing~~ transmitting the two or more signal fields ~~of a combined signal field of the compatibility preamble field into~~ over two or more neighboring sub-channels; and
rotating a phase of at least one of the two or more signal fields relative to the other signal fields. ~~in one of the sub-channels.~~

17. **(Currently Amended)** The method of claim 13, wherein the data packet comprises at least one data field, and said step of generating comprises:
fragmenting [[a]] the data field of the data packet into two or more fragments ~~at least first and second fragments~~; and
separating the ~~first and second~~ fragments by a middle-fix training field, ~~of two or more training fields.~~

18. **(Currently Amended)** The method of claim 17 comprising:
modulating a first of the two or more fragments using a first modulation scheme and a second of the two or more fragments using a second modulation scheme. ~~first and second sub-carriers of the first and second fragments with first and second modulation schemes, respectively.~~

19. **(Currently Amended)** The method of claim 17 comprising:
encoding a first of the two or more fragments using a first code and a second of the two or more fragments using a second code, ~~the first and second fragments by first and second encoding schemes, respectively.~~

20. **(Currently Amended)** The method of claim 13, wherein ~~17 comprising: predicting long-term characteristics of a communication channel based on information received from~~ at least one of the two or more training fields is adapted to provide long term channel prediction.

21. **(Currently Amended)** A wireless communication device comprising:

a data packet generator to generate a data packet including ~~at least one of~~ a compatibility preamble field, two or more training fields, and a physical layer convergence protocol header that includes bit and power loading information; and ~~, and wherein at least some of the compatibility preamble field, the two or more training fields and the physical layer convergence protocol header are encoded with a predetermined code and modulated by a predetermined modulation scheme; and~~

a dipole antenna to ~~receive and~~ transmit the data packet.

22. **(Currently Amended)** The wireless communication device of claim 21, wherein the compatibility preamble field is subdivided ~~in time~~ into a short combined preamble, a long combined preamble and a combined signal field.

23. **(Currently Amended)** The wireless communication device of claim 22, wherein the short combined preamble comprises:

two or more short preambles ~~subdivided into~~ adapted to be transmitted over two or more neighboring sub-channels, and wherein [[and]] at least one of the two or more short preambles is phase rotated relative to other short preambles, ~~in other sub-channels.~~

24. **(Currently Amended)** The wireless communication device of claim 22, wherein the long combined preamble comprises:

two or more long preambles ~~subdivided into~~ adapted to be transmitted over two or more neighboring sub-channels, and wherein at least one of the two or more long preambles is phase rotated relative to other long preambles, ~~in other sub-channels.~~

25. **(Currently Amended)** The wireless communication device of claim 22, wherein the combined signal field comprises:

two or more signal fields ~~wherein, at least one signal field is subdivided into~~ adapted to be transmitted over two or more neighboring sub-channels, and wherein at least one of the two or more short preambles is phase rotated relative to other short preambles, ~~in other sub-channels.~~

26. **(Currently Amended)** The wireless communication device of claim 21, wherein the two or more training fields comprise:
a prefix training field and a postfix training field, both fields having substantially the same format. ~~, transmitted over two or more sub-channels of a channel.~~

27. **(Original)** The wireless communication device of claim 21, wherein the data packet comprises at least one data field fragmented into two or more fragments separated by at least one middle-fix training field.

28. **(Currently Amended)** The wireless communication device of claim 26, wherein the two or more training fields further comprise: ~~comprises:~~
a middle-fix training field having substantially the same format as the prefix training field and the postfix training field.

29. **(Currently Amended)** The wireless communication device of claim 27, comprising:
a modulator to modulate a first of the two or more fragments using a first modulation scheme and a second of the two or more fragments using a second modulation scheme. ~~two or more modulation schemes, respectively.~~

30. **(Canceled)**

31. **(Original)** The wireless communication device of claim 29 comprising:
an encoder to encode a first fragment of the two or more fragments by a first code and a second fragment of the two or more fragments by a second code.

32. **(Currently Amended)** A wireless communication system comprising:
two or more wireless communication devices wherein at least one of the two or more wireless communication devices include:
a data packet generator to generate a data packet including ~~at least one of~~ a compatibility preamble field, two or more training fields, and a physical layer convergence protocol header that includes bit and power loading information. ~~, and wherein at least some of the compatibility preamble field, the two or more training fields and the physical layer convergence protocol header are encoded with a predetermined code and modulated by a predetermined modulation scheme.~~

33. **(Currently Amended)** The wireless communication system of claim 32, wherein the compatibility preamble field is subdivided ~~in time~~ into a short combined preamble, a long combined preamble and a combined signal field.

34. **(Currently Amended)** The wireless communication system of claim 33, wherein the short combined preamble comprises:
two or more short preambles ~~subdivided into~~ adapted to be transmitted over two or more neighboring sub-channels, and wherein [[and]] at least one of the two or more short preambles is phase rotated relative to the other short preambles, ~~in other sub-channels.~~

35. **(Currently Amended)** The wireless communication system of claim 33, wherein the long combined preamble comprises:
two or more long preambles ~~subdivided into~~ adapted to be transmitted over two or more neighboring sub-channels, and wherein at least one of the two or more long preambles is phase rotated relative to the other long preambles, ~~in other sub-channels.~~

36. **(Currently Amended)** The wireless communication system of claim, 33 wherein the combined signal field comprises:
two or more signal fields ~~wherein, at least one signal field is subdivided into~~ adapted to be transmitted over two or more sub-channels, and where at least one of the two or more short preambles is phase rotated relative to the other short preambles, ~~in other sub-cannels.~~

37. **(Currently Amended)** The wireless communication system of claim 32, wherein the two or more training fields comprise:
a prefix training field and a postfix training field, both fields having substantially the same format, ~~, transmitted over two or more sub-channels of a channel.~~

38. **(Original)** The wireless communication system of claim 32, wherein the data packet comprises at least one data field fragmented into two or more fragments separated by at least one middle-fix training field.

39. **(Currently Amended)** The wireless communication system of claim [[36]] 37, wherein the two or more training fields further comprise: ~~comprises:~~
a middle-fix training field having substantially the same format as the prefix training field and the postfix training field.

40. **(Currently Amended)** The wireless communication system of claim [[39]] 38, comprising:
a modulator to modulate a first of the two or more fragments using a first modulation scheme and a second of the two or more fragments using a second modulation scheme. ~~two or more modulation schemes, respectively.~~

41. **(Canceled)**

42. **(Currently Amended)** The wireless communication system of claim [[40]] 38 comprising:
an encoder to encode a first fragment of the two or more fragments by a first code and a second fragment of the two or more fragments by a second code.

43. (New) The method of claim 13, wherein the compatibility preamble field is subdivided into a short combined preamble, a long combined preamble and a combined signal field.

44. (New) The wireless communication device of claim 21, wherein at least one of the two or more training fields is adapted to provide long term channel prediction.

45. (New) The wireless communication system of claim 32, wherein at least one of the two or more training fields is adapted to provide long term channel prediction.